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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,731	12/11/2000	Patrick Siu-Ying Hung	CP0005US	8072

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EXAMINER

LABAZE, EDWYN

ART UNIT	PAPER NUMBER
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2876

DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/736,731

Applicant(s)

HUNG ET AL.

Examiner

EDWYN LABAZE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-27 is/are allowed.
- 6) ☒ Claim(s) 1-15 and 28-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Receipt is acknowledged of amendments filed on 1/13/03.
2. Claims 1-33 are presented for examination.

Examiner's Remarks

3. The indicated allowability of claims 3-8, 10-15 is withdrawn in view of the newly discovered reference(s) and interpretations of the claimed invention. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-4, and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandorff et al. (U.S. 5,408,084) in view of Copenhaver et al. (U.S. 5,519,513).

Brandorff discloses a two-dimensional bar code reader¹⁰ (see fig.1), which includes a CCD camera assembly 200 (col. 2, lines 49), a shroud 300 (col.2, lines 58) that blocks the ambient light from entering the imaging camera and an illumination assembly including of LED illuminators/lamps 100 (col. 2, lines 59-63) within the shroud 300 to illuminate the computer-

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readable code at an angle such that light reflected from the illumination is not directly reflected from the surface to the camera.

Brandorff et al. fails to teach a photopic imaging camera.

Copenhaver et al. discloses techniques for illuminating objects, which includes a photopic camera (col.4, lines 32+).

In view of Copenhaver et al.'s teaching, it would have been obvious to an artisan of ordinary skill in the art at the time invention was made to employ a photopic camera with Tungsten-halogen lamp so as control light efficiency of the imaged data. Furthermore, the photopic camera is used to reduce the brightness and contrast between the light and dark code elements. The advantage of the photopic camera is to spectrally correct the illumination and provide adequate imaged data visible to the human eye upon scanning/reading of the display. Furthermore, Copenhaver et al. teaches an optical filter to reduce the brightness, attenuate the certain wavelengths from the lamps to give a desired spectral output (col.12, lines 21+), which is same means of transmitting more blue and red light the green light. Moreover, such modification would have been an improvement and an obvious extension of the teaching of Brandorff et al.

6. Claims 10-14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roustaei (U.S. 6,347,163).

Roustaei discloses a system for reading two-dimensional images using ambient and/or projected light, which includes a scanner 100 with a photodetector 206 (col.5, lines 16+) and illumination lamp 202 (col.5, lines 15+), measuring light from the electronic display with the photodetector 203 (col.6, lines 9+), and if the measured light is below a selected threshold

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turning on the illumination lamp (col.6, lines 16+) and scanning the image of the computer-readable code from the electronic display (col.6, lines 31+).

Roustaei fails to disclose the method step of the above configuration.

However, giving all the limitations within the system, it would have been obvious for one skilled in the art at the time of the invention was made to creating a program containing the step of scanning the computer-readable code from the display. Furthermore, such modification would have been advantageous to the teaching of Roustaei so as to prevent unreadable imaged data from scanning the code from the display, and control the necessary amount of light required to properly scan the code after measuring the reflected light from the display. Moreover, such modification would have been an obvious extension as taught by Roustaei.

Re claim 11: Roustaei discloses that the photodetector is a photodiode/phototransistor 203 (col.6, line 9).

Re claim 12: Roustaei as modified above in claim 10 teaches that the photodetector 206 is an imaging camera (col.12, lines 47+).

Re claim 13: Roustaei as modified above in claim 10 discloses that the electronic display is an emissive display (see Fig. # 14 of Roustaei) having the power of emitting/radiating light, which could be in the art a computer, a television or the like.

Re claim 14: Roustaei as modified above in claim 10 teaches a system, which includes means of evaluating an exposure level of the image of computer-readable code, and if the level is outside pre-selected limits (col.17, lines 1-45); adjusting or calibrating an exposure parameter (voltage/watts) of the scanner (col.17, lines 44-67 and col.18, lines 1+); and scanning the image of the computer-readable code from the display.

Response to Arguments

7. Applicant's arguments filed on 1/13/2003 have been fully considered but they are not persuasive.

Re claim 1: The appellant argues that, the prior art cited by the examiner, Brandorff et al. (U.S. 5,408,084) disclosed that the illumination assembly does not avoid specular reflection. The applicant refers to Brandorff et al.'s (col.5, lines 35-41), wherein Brandorff et al. cited a polarizer downward to the illumination lamp to avoid specular reflection. These limitations are indeed mentioned within the prior art but as an alternative of Brandorff et al.'s teaching (col.5, lines 15-34, also Zheng et al. U.S. 5,339,852; 5,567,934; 5,517,018).

In response to the added limitations, wherein "the illumination lamp is disposed within the shroud such at an angle to avoid specular reflection of light", brandorff et al. still meets the claimed invention (col.4, lines 52-67). Brandorff et al. teaches that the LEDs are mounting on a board so that a clear view of the target surface is obtained. One skilled in the art would agree that although the language of the claimed limitation is different but the means are the same. Therefore the rejection stands.

Re claim 2: Brandorff et al. did not specify the spectral range of the narrow bandpass filter. One skill in the art would recognize that visible light is between 400 nm and 700nm and that it would have been obvious to add this limitation to the teaching of Brandorff et al. at the time the invention was made.

Re claim 3: The applicant has amended the claim so as to incorporate the photopic imaging camera. The examiner has respectfully redrawn the allowable subject matter in light of new ground of rejection and interpretation of the claimed invention (see the rejection as set forth

above). Also, it is the examiner's interpretation that the photopic camera is not the claimed invention, but better means of improving the scanning system and method and the invention. Thus, it would have been obvious to employ the photopic camera, a well-known feature in the art, into the teaching of Brandorff et al.

Re claim 5: The examiner has redrawn the allowable subject matter in light of new interpretation of the claimed invention. The applicant has added the new limitation "a shroud at least partially surrounding the imaging camera and configured to exclude ambient light from entering the imaging camera when the scanner is held against the surface and configured to place the scanner at a selected oblique angle". Although Brandorff et al. does not teach that the shroud is configured the scanner at a selected oblique angle relative to the surface (as shown in Fig. # 1 of the present invention) wherein the reflected beams from the lamp 22 are at an oblique angle, but one skilled in the art would agree that the projected lights are not always reflected back to the same projected angle when striking a surface (See U.S. 4,488,679 of Bockholt et al.). Therefore it would be obvious that the shroud of Brandorff et al. is configured to hold the scanner at an oblique angle relative to the surface.

Re claim 8: The claimed limitations are similar as to claim 1 except for the limitation of a photodiode. The examiner believes that Brandorf et al. still meets the claimed invention and further teaches a photo-transistor 192 (col. 3, lines 38+). Therefore the rejection stands.

Re claims 6-7 and 9: The applicant argues that it was not within the level of ordinary skill in the art at the time the present invention was made to mount the illumination lamp in relation to the camera (see applicant's arguments page, third paragraph) and that patent '934 discloses a polarizing analyzer to eliminate the effect of specular reflection.

The examiner respectfully disagrees that one skilled in the art was not at the level to combine the two references. The examiner refers to the patent '934 because of the specific limitations regarding the distance of the camera to the surface, including the viewing angle of the angle in patent '934, which is the same camera used in patent '084. After calculation of the angle (theta) using the algorithm from claim 6, it would have been obvious to conclude that the view angle as taught by Brandorff et al. would be greater than 13 degrees. Furthermore, as discussed above in the response for claim, Brandorff et al. does not use a polarizer to eliminate the specular reflection of light. It is only considered as alternative of the teaching. Therefore, the rejection stands.

Allowable Subject Matter

8. Claims 16-27 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach a method step for measuring the refresh period of the display and setting an exposure time from the measured refresh period, further capturing an image from the display a first, second and third time, evaluating the first image for an exposure level and adjusting an exposure parameter, attempting to decode the image so as to obtain the barcode information, measuring the refresh period of the of the electronic display and setting an exposure time upon the measured refresh period, and decoding the third captured image to obtain barcode. These limitations in conjunction with other limitations were not shown by the prior art of record.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWYN LABAZE whose telephone number is (703) 305-5437. The examiner can normally be reached on 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (703) 305-3503. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

el
Edwyn Labaze
Patent Examiner
Art Unit 2876
April 7, 2003



**THIEN M. LE
PRIMARY EXAMINER**